



Dart Hawkesbury  
1270 Aberdeen St Hawkesbury, ON K6A 1K7 Canada  
Tel (613) 632-5200  
Fax 613 632-5246

# Purchasing Receipts

Print

PO No	Supplier	Line Item No	Rel No	Terms	Purchased Item	Description	For Part No	Project	Equipment ID	Order Qty	Due Date	Received Quantity	Accounting Job No	Container No	Status	Receive Date	Price/Unit	Aging Days	Past Due	Total	Supplier Name			
P0040793	MES002-VC	1	1	Net 30	M304B0.250x0.500	304 Bar .250 X .500 : MATERIAL: AISI 304/316 SS BAR OR AISI 304/316 SS PLATE AS PER ASTM A276 OR ASTM A240 NOTE: AISI 303 NOT ACCEPTABLE receive ft				204	8/27/2018	220		S107464	Stock	8/31/2018	\$ 4.05 / ft	0		\$889.84	Metaux Solutions			
		2			M4130NB0.500X03.000	4130 Bar 0.500 X 3.00 MATERIAL: AISI 4130N STEEL BAR PER MIL-S-6758 OR AMS 6345/6348/6370/6528 40 PCS CUT TO SIZE 14"				47		47		S107465	Stock	8/31/2018	\$ 30.75 / ft	0		\$1,435.20	Metaux Solutions			
		3			M304TS0.750W.049	304 Sq Tube .75X.75X.049W : MATERIAL: AISI 304/316 SEAMLESS STAINLESS STEEL SQUARE TUBING AS PER ASTM A554 MILL FINISH OR ASTM A269 MILL FINISH receive ft				600		600		S107466	Stock	8/31/2018	\$ 3.80 / ft	0		\$2,280.00	Metaux Solutions			
		4			M304TS0.750W.065	304 Sq Tube .75X.75X.065W : MATERIAL: AISI 304/316 SEAMLESS STAINLESS STEEL SQUARE TUBING AS PER ASTM A554 MILL FINISH OR ASTM A269 MILL FINISH receive ft						600		S107467	Stock	8/31/2018	\$ 3.25 / ft	0		\$1,950.00	Metaux Solutions			
Total:											1,451		1,466											\$5,041.95

Plex 8/31/2018 2:23 PM dart.Tollis.Andrew



Dart Aerospace Ltd.  
1270 Aberdeen St  
Hawkesbury, ON  
K6A 1K7  
Canada

Tel (613) 632-5200

## PURCHASE ORDER PO040793

**Supplier:** MES002-VC  
Metaux Solutions  
2625 boul Jacques-Cartier Est  
Longueuil  
QC  
J4N 1L7 Canada  
Phone: 800 558 8858  
Fax: 514 633 8044

**PO No:** PO040793  
**PO Date:** 8/21/18  
**Due Date:** 8/27/18  
**Purchase Order  
Revision:**  
**Revision Date:**  
**Ship-To Contact:** Lavoie, Chantal  
clavoie@dartaero.com

**Ship To:** 1270 Aberdeen Street  
Hawkesbury  
ON  
K6A 1K7 Canada  
Phone: 613-632-5200

**Via:** Ground  
**Pymt Terms:** Net 30  
**Freight Terms:**  
**Special Comments:**

*REVISED \$.*

### Items

Line Item	Job	Part	Supplier Part No	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
1		M304B0.250x0.500		304 Bar .250 X .500 : MATERIAL: AISI 304/316 SS BAR OR AISI 304/316 SS PLATE AS PER ASTM A276 OR ASTM A240 NOTE: AISI 303 NOT ACCEPTABLE receive ft	Firmed	-	8/27/18	204 ft	0 ft 219.62 ft	204 ft	\$4.0521/ft	\$826.63 AUG 31 2018
2		M4130NB0.500X03.000		4130 Bar 0.500 X 3.00 MATERIAL: AISI 4130N STEEL BAR PER MIL-S-6758 OR AMS 6345/6348/6370/6528  40 PCS CUT TO SIZE 14"	Firmed	-	8/27/18	46.667 ft	0 ft 46.667 ft	47 ft	\$30.75214/ft	\$1,435.11 AUG 31 2018
3		M304TS0.750W.049		304 Sq Tube .75X.75X.049W : MATERIAL: AISI 304/316 SEAMLESS STAINLESS STEEL SQUARE TUBING AS PER ASTM A554 MILL FINISH OR ASTM A269 MILL FINISH receive ft	Firmed	-	8/27/18	600 ft	0 ft 600 ft	600 ft	\$3.80/ft	\$2,280.00 AUG 31 2018

Items												
Line Item	Job	Part	Supplier Part No	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
4		M304TS0.750W.065		304 Sq Tube .75X.75X.065W : MATERIAL: AISI 304/316 SEAMLESS STAINLESS STEEL SQUARE TUBING AS PER ASTM A554 MILL FINISH OR ASTM A269 MILL FINISH receive ft	Firmed	-	8/27/18	600 ft	0 ft	600 ft	\$3.25/ft	\$1,950.00
											Grand Total: \$6,491.74	

## Order Notes

## Procurement Quality Clauses

A005 right of entry  
A012 chemical and physical test report  
A016 personnel qualification  
A017 raw material identification (as applicable)  
A026 certification of material conformance  
A041 quality management system  
A042 dart notification by supplier  
A043 retention of quality documents

A048 counterfeit parts avoidance, detection, mitigation and disposition program

A049 supplier awareness

Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit [www.dartaerospace.com](http://www.dartaerospace.com) for further explanation.

Plex 8/22/18 12:19 PM dart.lavoie.chantal

## Shipping Order

30/08/2018

METAUX SOLUTIONS INC  
2625 BOUL JACQUES CARTIER EST  
LONGUEUIL, QUEBEC  
J4N 1L7 Tel.: 450 641-3330

Order : 137643  
Reference : PO040793  
Ship : PICK UP / PICK UP

Customer: 6323336

## Ship To

DART AEROSPACE LTD  
1270, ABERDEEN STREET  
HAWKESBURY, ONTARIO  
K6A 1K7

Same

Tel.: 1 613 632-3336

Item No.	Description	Qty	Qty. Delivered	B/O Qty
	***** FACTURER E-MAIL ***** SUPER IMPORTANT SUR LE PACKING SLIP INSCRIRE LES HEAT N		219.60	
SF14124HR	304 STAIN FLA .25" X .500" HR 17 LONG DE 12 PIEDS R/L HT #67736108 AT	221	221	0
MP124130N	4130 NORM PLATE .500 THICK AMS 6345 40 PCES 3" X 14" HT #1961550 AT	11.66	11.66	0
SSQT34340494	304 SQ TUBE .750 X .049 WALL 30 X 20' HT #9H855 AT	600	600	0
SSQT34340654MF	304 MILL FINISHED TUBING 3/4" X 3/4" X .065 WALL 30 X 20' HT #VLGS03102 AT	600	600	0

SHIP JOURNEY COLLECT

Shipping : \_\_\_\_\_  
Package No : \_\_\_\_\_

Ref. : \_\_\_\_\_

Merchandise Received: \_\_\_\_\_

<b>BOLLINGHAUS STEEL</b> Bollinghaus Steel, SA DIN EN ISO 9001:2008 TÜV CERT No. 01 100 030458		Abnahmeprüfung / Acceptance Test Certificate / Cert. de Qualidade EN 10204:2004 / 3.1 Unsere innere Verweisung / Our Int. Ref / ref int 5800038278 000010		No.: / Nr.: / Nr.: 0000136628 Datum / Date / Data 19.12.2017																														
Spezifikation / Standards / Normas TYPE 304/UNS S30400 and TYPE 304/UNS S30403 ecc. to ASTM A276/A276M-16a, ASTM A182/A182M-16a, ASTM A183/A183M-16, ASTM A479/A479M-16a, ASTM A320/A320M-15a, ASTM A314-15, ASTM A262-15 Pract. E, AMS QQ-S-783D, AMS 5830J, AMS 5847K, ASME SA479/SA479M, ASME SA276, ASME SA182/182M, ASME SA 193/SA193M, ASME SA320/SA320M, NACE MR0175-2015, execution as per ASTM A484/A484M-15.																																		
Kunde / Customer / Cliente ...			Endgültiger Kunde / Final Customer / Cliente Final ...																															
Bestell Nr./Order Nr./Enc.Nr. c110766			Bestell Nr./Order Nr./Enc.Nr. c110766.1																															
Produktgruppe / Product Group / Grupo Produto AISI 304L FLAT 1/4 X 1/2"			Gewicht / Weight / Peso 1.059 lb		Bunde / Bundle / Atados 01																													
Werkstoff-Nr. Material-no. Qualidade 1.4307		Werkstoff-Normbezeichnung / Material standard grade / Norma do material X 2 CrNi 18-9																																
Beschreibung / Description / Descrição Stainless steel flat bars, hot rolled, final treated, straightened and pickled US DEAR 352-225-7008; MELT SOURCE: France / MFG: Portugal.																																		
Schmelz-Nr. Cast nr. / Fundo nr. 67736108		Chemische Analyse in % / Chemical composition in % / Análise química em % <table border="1"> <tr> <td>C</td> <td>0.018</td> <td>Si</td> <td>0.525</td> <td>Mn</td> <td>1.154</td> <td>P</td> <td>0.029</td> <td>S</td> <td>0.025</td> <td>Cr</td> <td>18.127</td> <td>Ni</td> <td>8.045</td> </tr> <tr> <td>Mo</td> <td>0.376</td> <td>Co</td> <td>0.117</td> <td>Cu</td> <td>0.406</td> <td>N</td> <td>0.080</td> <td>Ti</td> <td>0.002</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> </tr> </table>				C	0.018	Si	0.525	Mn	1.154	P	0.029	S	0.025	Cr	18.127	Ni	8.045	Mo	0.376	Co	0.117	Cu	0.406	N	0.080	Ti	0.002	-	-	-	-	
C	0.018	Si	0.525	Mn	1.154	P	0.029	S	0.025	Cr	18.127	Ni	8.045																					
Mo	0.376	Co	0.117	Cu	0.406	N	0.080	Ti	0.002	-	-	-	-																					
Proben Nr. Test no. Amostra no. 4036951.01.01		<table border="1"> <tr> <th colspan="2">ASTM E398</th> <th colspan="6">ASTM A370</th> </tr> <tr> <th>Kerbschlagarbeit Impact Test Resiliência (Charpy V)</th> <th>Streckgrenze Yield point Tensão limite Rp 0.2 %</th> <th>Dehngrenze 1% point Limite de extensão Rp 1.0 %</th> <th>Zugfestigkeit Tensile strength Tensão de ruptura Rm</th> <th>Dehnung Elongation Alongamento A5</th> <th>Dehnung Elongation Alongamento A10</th> <th>Reduktion Reduction of area Coef. Esforço Z</th> </tr> <tr> <td>[J]</td> <td>[Ksi]</td> <td>[Ksi]</td> <td>[Ksi]</td> <td>[%]</td> <td>[%]</td> <td>[%]</td> </tr> <tr> <td>-</td> <td>48</td> <td>67</td> <td>93</td> <td>53.9</td> <td>55.4</td> <td>70.1</td> </tr> </table>				ASTM E398		ASTM A370						Kerbschlagarbeit Impact Test Resiliência (Charpy V)	Streckgrenze Yield point Tensão limite Rp 0.2 %	Dehngrenze 1% point Limite de extensão Rp 1.0 %	Zugfestigkeit Tensile strength Tensão de ruptura Rm	Dehnung Elongation Alongamento A5	Dehnung Elongation Alongamento A10	Reduktion Reduction of area Coef. Esforço Z	[J]	[Ksi]	[Ksi]	[Ksi]	[%]	[%]	[%]	-	48	67	93	53.9	55.4	70.1
ASTM E398		ASTM A370																																
Kerbschlagarbeit Impact Test Resiliência (Charpy V)	Streckgrenze Yield point Tensão limite Rp 0.2 %	Dehngrenze 1% point Limite de extensão Rp 1.0 %	Zugfestigkeit Tensile strength Tensão de ruptura Rm	Dehnung Elongation Alongamento A5	Dehnung Elongation Alongamento A10	Reduktion Reduction of area Coef. Esforço Z																												
[J]	[Ksi]	[Ksi]	[Ksi]	[%]	[%]	[%]																												
-	48	67	93	53.9	55.4	70.1																												
Visuelle Kontrolle Visual inspection Inspeção visual <input checked="" type="checkbox"/> OK		ASTM E10 Härte Hardness Dureza 195 [HB]		ASTM A262 Practice E Korrosionsbeständigkeit IC Test Corrosão intercristalina <input checked="" type="checkbox"/> OK																														
ASTM A484 Maßkontrolle Dimensional inspection Inspeção dimensional <input checked="" type="checkbox"/> OK		ASTM E112 Korngröße Grain size Tamanho de grão 9		Wärmebehandlung Heat treatment Tratamento térmico Annealed/Quenched 1900 °F (1050 °C) (water quenched)																														
Verwechslungsprüfung Test of identity Teste de identificação <input checked="" type="checkbox"/> OK		Makrooptische Untersuchung Macrographic test Material free from segregation defects. <input checked="" type="checkbox"/> OK		396 Vasco Ferreira (S - VF)																														
Bemerkungen / Remarks / Observações Country of origin: Portugal. No weld repair done. Material is free of mercury and radiation contamination.																																		
Bollinghaus Steel, SA Hiermit bestätigen wir, dass das Material der oben genannten Spezifikation entspricht. We confirm that this material meets the specification according to the mentioned standards. Confirmamos que este material respalda as especificações de acordo com as normas referidas.																																		

**SPECIFICATION CONTROL DRAWING**

△ PURCHASE MATERIAL: AISI 304/316 SS BAR OR AISI 304/316 SS PLATE  
(NOTE: AISI 303 NOT ACCEPTABLE)

△ SPECIFICATION:  
PART NUMBER: M304B | T.TTT | X | WWW.WWWW |  
THICK | WIDTH

WHERE "T.TTT" = THICKNESS IN INCHES  
AND "WWW.WWWW" = WIDTH IN INCHES

△ EG. 0.5" X 3.0" BAR = M304B0.500X03.000  
EG. 0.5" X 12.0" PLATE = M304B0.500X12.000

RELEASED  
2010-11-30

C	ADDED PLATE TO PURCHASE MATERIAL. ADDED PLATE RELATED SPECIFICATIONS, AND EG. CHANGED TITLE FROM "304/316 BAR" TO "304/316 BARIPLATE"	MB	10.11.25
B	REFORMAT DWG. ADD SPECS (2N D8-1), REF PAR 08-020A	CP	09.07.15
A	NEW ISSUE	PH	05.08.10
REV	DESCRIPTION	BY	DATE
DESIGN	PH		
DRAWN			
CHECKED			
MFG. APPR.			
APPROVED			
DE APPR.			
DATE	10.11.25		
DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA			
DRAWING NO. M304B		REV. C	
TITLE 304/316 BAR/PLATE		SHEET 1 OF 1	
DATE		SCALE NTS	
COPYRIGHT © 2005 BY DART AEROSPACE LTD THIS DOCUMENT IS THE PROPERTY OF DART AEROSPACE LTD. IT IS TO BE USED ONLY FOR THE PURPOSES FOR WHICH IT WAS ISSUED AND IS NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM.			

# MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M304B0.250x0.500  
 DATE: 18/08/31

PO / BATCH NO.: P0040743/5107464

MATERIAL CERT REC'D: Ker  
 QUANTITY RECEIVED: 219.60ft  
 QUANTITY INSPECTED: 219.60ft  
 QUANTITY REJECTED: 0

THICKNESS ORDERED: 0.250"  
 THICKNESS RECEIVED: 0.250"  
 SHEET SIZE ORDERED: —  
 SHEET SIZE RECEIVED: —

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	Y (N)	
CORRECT FINISH	(Y) N	
CORROSION	Y (N)	
CORRECT GRAIN DIRECTION	(Y) N	
CORRECT MATERIAL PER M-DRAWING	(Y) N	ASTM A276
CORRECT THICKNESS	(Y) N	
PHOTO REQUIRED	Y (N)	
CORRECT REF # TO LINK CERT	(Y) N	MT: 67736/08
CORRECT MATERIAL IDENTIFICATION	(Y) N	
CORRECT M# ON THE MATERIAL	(Y) N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y (N)	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y (N)	

CUT SAMPLE PIECE OF MATERIAL AND PREFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

QC 18 INSPECTION	ENGINEERING SIGNOFF (if required)
INSPECTED BY: <u>AT</u> DATE: <u>18/08/31</u>	SIGNED OFF BY: _____ DATE: _____

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

# NUCOR STEEL

4537 S. NUCOR ROAD; CRAWFORDSVILLE, IN 47933

## REPORT OF TESTS

ATIN:	DATE: 1/20/15
FAX:	
SOLD TO:	CUSTOMER ORDER # 081414MC
SIZE: 0.500" by 36" steel sheet	PRODUCT: HRPO light oil FINE GRAIN AIRCRAFT QUALITY 4130 AMS 6345 Rev C ASTM-A 506 ASTM-A-635 AMS 2301 Rev J [successor to MIL-S-18729 COND N.] NORMALIZED OR OTHERWISE HEAT TREATED

### AMS 6345

COIL #	HEAT #	YIELD	TENSILE	ELONG
1961550	248571-06	81.5 ksi	115 ksi	20%

TEST	RESULT
*Average austenite grain size	#8 Pass
Decarburization (P/F)	Pass
*Bend Test (P/F)	Pass
*Response to Heat Treatment (P/F)	45 HRC Pass
*AMS 2301 Quality Freq/Sev (P/F)	0/0 Pass

\*These tests performed by outside lab, ISO 17025 certified.

HEAT #	C	Mn	P	S	Al	Si	N	Cr	Ni	Cu	Mo
248571	0.287	0.55	0.006	0.000	0.028	0.208	0.007	0.860	0.017	0.043	0.165

WE HEREBY CERTIFY THE ABOVE  
IS CORRECT AS CONTAINED IN  
THE RECORDS OF THE CORPORATION.

Melted and Manufactured in the USA

QF-0200, 10/17/05

  
Cold Mill Metallurgist



PURCHASE MATERIAL: AISI 4130N STEEL BAR PER MIL-S-6758 OR AMS 6345/6348/6370/6528

PART NUMBER: M4130N-B | T.TTT | X | WW.WWW | WHERE T.TTT = THICKNESS (IN INCHES)  
THICK | WIDTH | WW.WWW = WIDTH (IN INCHES)

EG. 0.5" X 3.0" BAR = M4130N-B0.500X03.000

RELEASED  
08.07.09

B	ADD AMS 6345	PH	08.05.05
A	NEW ISSUE	DS	01.06.08
REV.	DESCRIPTION	BY	DATE
DESIGN	<i>[Signature]</i>	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
DRAWN	<i>[Signature]</i>		
CHECKED	<i>[Signature]</i>	DRAWING NO.	REV. B
MFG. APPR.	<i>[Signature]</i>	M4130N-B	SHEET 1 OF 1
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	4130 BAR	NTS
DATE	08.05.05	COPYRIGHT © 2001 BY DART AEROSPACE LTD <small>THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION, THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD</small>	

# MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M4130N B0.500 x 0.3.000

PO / BATCH NO.: P0040743/S107465

DATE: 18/08/31

MATERIAL CERT REC'D: Yes

THICKNESS ORDERED: 0.500"

QUANTITY RECEIVED: 46.667ft

THICKNESS RECEIVED: 0.500"

QUANTITY INSPECTED: 46.667ft

SHEET SIZE ORDERED: —

QUANTITY REJECTED: 0

SHEET SIZE RECEIVED: —

DESCRIPTION	NCR (Check Y/N)		COMMENTS
SURFACE DAMAGE	Y	(N)	
CORRECT FINISH	(Y)	N	
CORROSION	Y	(N)	
CORRECT GRAIN DIRECTION	(Y)	N	
CORRECT MATERIAL PER M-DRAWING	(Y)	N	AMS 6345
CORRECT THICKNESS	(Y)	N	
PHOTO REQUIRED	Y	(N)	
CORRECT REF # TO LINK CERT	(Y)	N	MT: 1961550
CORRECT MATERIAL IDENTIFICATION	(Y)	N	
CORRECT M# ON THE MATERIAL	(Y)	N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y	(N)	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y	(N)	

CUT SAMPLE PIECE OF MATERIAL AND PERFORM A HARDNESS CHECK.  
RECORD RESULTS BELOW

	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

<b>QC 18 INSPECTION</b>		<b>ENGINEERING SIGNOFF (if required)</b>	
INSPECTED BY: <u>AT</u>	SIGNED OFF BY: _____		
DATE: <u>18/08/31</u>	DATE: _____		

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in



KINGMAKER STEEL CO., INC  
133 BELMONT DRIVE  
SOMERSET, NJ 08873  
Tel.: 732-302-1800  
Fax: 732-302-1822  
www.KingmakerSteel.com

SOLD TO

SHIP TO

# Material Certification

ISO 9001:2015  
ISO 14001:2004  
EN 10204/3.1B

Order#	202075-001
PO#	P010564
Date	7/11/2018
Page	1 of 1

Item No.	Description (Form, Size, Finish)	Spec (ASTM)	Grade	Finish	Country of Origin	Heat No.	Chemical Composition (%)										Mechanical Properties						
							C	Si	Mn	P	S	Cr	Ni	Mo	N	Cu	Tensile (N/mm)	Yield (N/mm)	Elongation (%)	Hardness HRC	Flattening Test	Hydrostatic Test (Mpa)	Eddy Current
1	SQ. 3/4" X 0.049"W X 20" MF 304	A554-16	304L	MF	VNM	9H855	015	430	1.10	0.35	.003	18.21	8.07				698.00	352.00	46.00	88.50			

Specifications: ASTM A554 - Stainless Steel T.I.G. Welded Tubing  
ASTM A269 = Stainless Steel T.I.G. Welded Tubing  
ASTM A312 = Stainless Steel T.I.G. Welded Pipe  
ASTM A240/480 = Stainless Steel S/E Flat Bars\*

Finish: MF = Mill Finish  
#4FG = #4 Grit Polished  
A/P = Annealed and Pickled

Country Code: USA = United States  
TWN = Taiwan  
VNM = Vietnam

WE HEREBY CERTIFY THAT TO THE BEST OF OUR KNOWLEDGE, THE MATERIAL LISTED ABOVE HAS BEEN MANUFACTURED IN ACCORDANCE WITH AND MEET THE ABOVE APPLICABLE SPECIFICATIONS AND GRADES, AND ALSO THAT THE MATERIAL WAS PRODUCED IN A MERCURY FREE ENVIRONMENT. THE CHEMICAL COMPOSITIONS OF THE MATERIAL ARE IN ACCORDANCE WITH ASTM A310.

\*FLAT BARS CONFORM TO ASTM A276 AND ASTM A479 - CHEMISTRY ONLY

PURCHASE MATERIAL: AISI 304/316 STAINLESS STEEL SQUARE TUBING

FINISH: ASTM A554 MILL FINISH  
OR ASTM A269 MILL FINISH

PART NUMBER: M304TS | A AAA | W | TTT |  
| WIDTH | WALL |

PART NUMBER: EG. 0.75" X 0.75" X 0.049 WALL = M304TS0.750W.049

WHERE: A AAA = WIDTH IN INCHES  
TTT = WALL THICKNESS IN INCHES

RELEASED  
R 2014-05-26

D	"SEAMLESS" REMOVED FROM PURCHASE MATERIAL SPECIFICATION (SEE NCR14-3811)	DB	14.05.20
C	"SEAMLESS" ADDED TO PURCHASE MATERIAL ASTM A269 ADDED TO FINISH. REASON: SPEC ADDED FOR 1/2" TUBING	AJS	06.10.16
B	DRAWING MOVED TO "B" SIZE BORDER FINISH ADDED (SEE NCR 06-045 FOR DETAILS)	AJS	06.06.20
A	NEW ISSUE	DS	01.08.08
REV.	DESCRIPTION	BY	DATE
DESIGN	DS		
DRAWN	DB		
CHECKED			
MFG. APPR.			
APPROVED			
DE APPR.			
DATE	14.05.20		
DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA			
REV. D DRAWING NO M304TS SHEET 1 OF 1			
TITLE 304/316 SQUARE TUBING			
SCALE NONE			
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# MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M304TS0.750W0.49  
 DATE: 18/08/31

PO / BATCH NO.: P0040793 / S107466

MATERIAL CERT REC'D: Yes  
 QUANTITY RECEIVED: 600ft  
 QUANTITY INSPECTED: 600ft  
 QUANTITY REJECTED: 0

THICKNESS ORDERED: 0.750"  
 THICKNESS RECEIVED: 0.750"  
 SHEET SIZE ORDERED: —  
 SHEET SIZE RECEIVED: —

DESCRIPTION	NCR (Check Y/N)		COMMENTS
SURFACE DAMAGE	Y	<input checked="" type="radio"/> N	
CORRECT FINISH	<input checked="" type="radio"/> Y	N	
CORROSION	Y	<input checked="" type="radio"/> N	
CORRECT GRAIN DIRECTION	<input checked="" type="radio"/> Y	N	
CORRECT MATERIAL PER M-DRAWING	<input checked="" type="radio"/> Y	N	ASTM A554
CORRECT THICKNESS	<input checked="" type="radio"/> Y	N	
PHOTO REQUIRED	Y	<input checked="" type="radio"/> N	
CORRECT REF # TO LINK CERT	<input checked="" type="radio"/> Y	N	HT: 94855
CORRECT MATERIAL IDENTIFICATION	<input checked="" type="radio"/> Y	N	
CORRECT M# ON THE MATERIAL	<input checked="" type="radio"/> Y	N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y	<input checked="" type="radio"/> N	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y	<input checked="" type="radio"/> N	

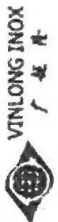
CUT SAMPLE PIECE OF MATERIAL AND PREFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

QC 18 INSPECTION	ENGINEERING SIGNOFF (if required)
INSPECTED BY: <u>AT</u> DATE: <u>18/08/31</u>	SIGNED OFF BY: _____ DATE: _____

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

00248



VINLONG INOX  
厂 建 材

VINLONG STAINLESS STEEL (VIETNAM) CO., LTD.  
Lot 61C, 131C1, 131D, Long Giang IP, Tan Lap 3 Commune, Tan Phuoc District, Thon Giang Province, Viet Nam  
Tel: (+84 273) 364 2555  
http://www.vinlonginox.vn

Fax: (+84 273) 364 2557  
E-mail: jerry@vinlonginox.vn; cs@vinlonginox.vn

# MATERIAL TEST CERTIFICATE

Product Name		Stainless Steel Welder TIG Tubes (ASTM A358)				Customer		QORN STAINLESS STEEL INC.		PI No.		GS-VN 003		Certificate No.		87/1B-GS003-8				
NO.	Heading NO.	Size				Thickness	Quantity (FT)	Net Weight (KGS)	Hole Size (GROTT)	Material	Chemical Composition (%)								Wall Thickness Tolerance	Dimensional Tolerance
		(DCH)	(MM)	(DCH)	(MM)						C	Si	Mn	P	S	Ni	Cr	Cu		
1	VLS03101	0.625	15.88	16	0.049	1.16	1,000	244.80	180	304	0.059	0.407	1.27	0.037	0.003	8.35	18.67	/	GOOD	GOOD
2	VLS03102	0.75	19.05	16	0.065	1.51	1,000	194.60	MF		0.050	0.396	1.04	0.030	0.005	8.08	18.24	/		
3	VLS03102	0.75	19.05	16	0.065	1.51	3,600	714.20	180		0.050	0.396	1.04	0.030	0.005	8.08	18.24	/		
4	VLS03101	0.875	22.23	18	0.049	1.16	2,340	444.20	MF		0.059	0.407	1.27	0.037	0.003	8.35	18.67	/		
5	VLS03101	0.875	22.23	18	0.049	1.16	2,400	451.20	180		0.059	0.407	1.27	0.037	0.003	8.35	18.67	/		
6	VLS03101	1.00	25.4	18	0.049	1.16	3,720	823.80	MF		0.059	0.407	1.27	0.037	0.003	8.35	18.67	/		
7	VLS03101	1.00	25.4	18	0.049	1.16	3,200	671.20	180		0.059	0.407	1.27	0.037	0.003	8.35	18.67	/		
8	VLS03102	1.125	28.60	16	0.065	1.51	820	251.60	MF		0.050	0.396	1.04	0.030	0.005	8.08	18.24	/		
9	VLS03102	1.125	28.60	16	0.065	1.51	2,000	524.20	180		0.050	0.396	1.04	0.030	0.005	8.08	18.24	/		
10	VLS03103	1.5	38.1	11	0.120	2.76	1,860	1,404.80	MF		0.056	0.405	1.26	0.038	0.003	8.37	18.65	/		
11	VLS03102	2	50.8	16	0.065	1.51	4,400	2,498.00	180		0.050	0.396	1.04	0.030	0.005	8.08	18.24	/		
12	VLS03103	2	50.8	11	0.120	2.76	2,000	2,024.40	MF		0.056	0.405	1.26	0.038	0.003	8.37	18.65	/		
13	VLS03102	2.5	63.5	16	0.065	1.51	4,320	3,064.40	MF		0.050	0.396	1.04	0.030	0.005	8.08	18.24	/		
14	VLS03102	3	76.2	16	0.065	1.51	20,400	17,428.80	180		0.050	0.396	1.04	0.030	0.005	8.08	18.24	/		
15	VLS03102	0.5	12.7	16	0.065	1.51	2,760	468.60	180		0.050	0.396	1.04	0.030	0.005	8.08	18.24	/		
16	VLS03102	0.625	15.88	16	0.065	1.51	3,540	740.20	180		0.050	0.396	1.04	0.030	0.005	8.08	18.24	/		
17	VLS03102	0.75	19.05	16	0.065	1.51	3,240	848.20	180		0.050	0.396	1.04	0.030	0.005	8.08	18.24	/		
18	VLS03103	1	25.4	11	0.120	2.76	1,500	918.20	MF		0.056	0.405	1.26	0.038	0.003	8.37	18.65	/		
19	VLS03103	1.25	31.75	11	0.120	2.76	2,760	2,141.40	180		0.056	0.405	1.26	0.038	0.003	8.37	18.65	/		
20	VLS03103	1.5	38.1	11	0.120	2.76	1,780	1,674.40	MF		0.056	0.405	1.26	0.038	0.003	8.37	18.65	/		
		Mechanical Test				Solution Annealing		Method of Cooling	Flattening Test	Flange Test	Hydrostatic Test	Intergranular Corrosion Test		Surface Quality	Wall Thickness Tolerance	Dimensional Tolerance				
NO.	T.S (Rm) N/mm²	Elongation (%)		Y.S (Rp) 0.2%N/mm²		Hardness (HRA)														
1	650	56	86	258	86	86	86	/	/	/	/	/	/	GOOD	GOOD	GOOD	GOOD			
2	674	53	86	310	86	86	86	/	/	/	/	/	/	GOOD	GOOD	GOOD	GOOD			
3	674	53	86	310	86	86	86	/	/	/	/	/	/	GOOD	GOOD	GOOD	GOOD			
4	650	56	86	258	86	86	86	/	/	/	/	/	/	GOOD	GOOD	GOOD	GOOD			
5	650	56	86	258	86	86	86	/	/	/	/	/	/	GOOD	GOOD	GOOD	GOOD			
6	650	56	86	258	86	86	86	/	/	/	/	/	/	GOOD	GOOD	GOOD	GOOD			
7	650	56	86	258	86	86	86	/	/	/	/	/	/	GOOD	GOOD	GOOD	GOOD			
8	674	53	86	310	86	86	86	/	/	/	/	/	/	GOOD	GOOD	GOOD	GOOD			
9	674	53	86	310	86	86	86	/	/	/	/	/	/	GOOD	GOOD	GOOD	GOOD			
10	652	56	86	258	86	86	86	/	/	/	/	/	/	GOOD	GOOD	GOOD	GOOD			

NO.	Mechanical Test				Solution Annealing Temperature	Method Of Cooling	Flattening Test	Rings Test	Hydrostatic Test	Intergranular Corrosion Test	Surface Quality	Wall Thickness Tolerance	Dimensional Tolerance
	T.S (Ksi) N/mm <sup>2</sup>	Elongation (%)	Y.S (ksi) N/mm <sup>2</sup>	Hardness (HRC)									
11	674	53	310	86	/	/	/	/	/	/	GOOD	2-10%, 5+10%	GOOD
12	652	56	258	86	/	/	/	/	/	/	GOOD		GOOD
13	674	53	310	86	/	/	/	/	/	/	GOOD		GOOD
14	674	53	310	86	/	/	/	/	/	/	GOOD		GOOD
15	674	53	310	86	/	/	/	/	/	/	GOOD		GOOD
16	674	53	310	86	/	/	/	/	/	/	GOOD		GOOD
17	674	53	310	86	/	/	/	/	/	/	GOOD		GOOD
18	652	56	258	86	/	/	/	/	/	/	GOOD		GOOD
19	652	56	258	86	/	/	/	/	/	/	GOOD		GOOD
20	652	56	258	86	/	/	/	/	/	/	GOOD		GOOD
Remarks:													
Subject: Quality Assurance Engineer:													
Stamp of Department of Quality Assurance:													
1. Through inspection and test the quality of these products conforms the stipulation of related contract and standards.													
2. If there have any query, please clarify via phone call, fax or email, indicating the certificate number.													
3. We have been certified to ISO 9001:2015 Quality Assurance System.													
Copies Are Invalid													
Date: 05-06-2018													
3 INCH													
1.00													

PURCHASE MATERIAL: AISI 304/316 STAINLESS STEEL SQUARE TUBING

FINISH:  $\triangle$  D  
ASTM A554 MILL FINISH  
OR ~~ASTM A269~~ MILL FINISH

WHERE: A.AAA = WIDTH IN INCHES  
.TTT = WALL THICKNESS IN INCHES

PART NUMBER: M304TS | A.AAA | W | .TTT |  
| WIDTH | WALL |

PART NUMBER: EG. 0.75" X 0.75" X 0.049 WALL = M304TS0.750W.049

RELEASED  
R 2014-05-26

D	"SEAMLESS" REMOVED FROM PURCHASE MATERIAL SPECIFICATION (SEE NCR14-3818)	DB	14.05.20
C	"SEAMLESS" ADDED TO PURCHASE MATERIAL. ASTM A269 ADDED TO FINISH. REASON: SPEC ADDED FOR 1/2" TUBING	AJS	09.10.16
B	DRAWING MOVED TO "B" SIZE BORDER FINISH ADDED (SEE NCR 08-045 FOR DETAILS)	AJS	06.08.28
A	NEW ISSUE	DS	01.06.09
REV.	DESCRIPTION	BY	DATE
DESIGN	DS		
DRAWN	DB		
CHECKED	DB		
MFG. APPR.	M304TS		
APPROVED			
DE APPR.			
DATE	14.05.20		
DART AEROSPACE LTD HAMMERSBURY, ONTARIO, CANADA			
REV. D			
SHEET 1 OF 1			
SCALE			
304/316 SQUARE TUBING			
NONE			
COPYRIGHT © 2001 BY DART AEROSPACE LTD THIS DOCUMENT IS UNCLASSIFIED AND NOT FOR RELEASE UNLESS OTHERWISE INDICATED BY THE DART AEROSPACE LTD REF TO 1000 THE DART AEROSPACE LTD 1000			



# MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M304750.750W.065

PO / BATCH NO.: P0040793/5107467

DATE: 18/08/31

MATERIAL CERT REC'D: Yes

THICKNESS ORDERED: 0.750"

QUANTITY RECEIVED: 600ft

THICKNESS RECEIVED: 0.750"

QUANTITY INSPECTED: 600ft

SHEET SIZE ORDERED: -

QUANTITY REJECTED: 0

SHEET SIZE RECEIVED: -

DESCRIPTION	NCR (Check Y/N)		COMMENTS
SURFACE DAMAGE	Y	<input checked="" type="checkbox"/>	
CORRECT FINISH	<input checked="" type="checkbox"/>	N	
CORROSION	Y	<input checked="" type="checkbox"/>	
CORRECT GRAIN DIRECTION	<input checked="" type="checkbox"/>	N	
CORRECT MATERIAL PER M-DRAWING	<input checked="" type="checkbox"/>	N	ASTM A554
CORRECT THICKNESS	<input checked="" type="checkbox"/>	N	
PHOTO REQUIRED	Y	<input checked="" type="checkbox"/>	
CORRECT REF # TO LINK CERT	<input checked="" type="checkbox"/>	N	PR: VL6503102
CORRECT MATERIAL IDENTIFICATION	<input checked="" type="checkbox"/>	N	
CORRECT M# ON THE MATERIAL	<input checked="" type="checkbox"/>	N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y	<input checked="" type="checkbox"/>	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y	<input checked="" type="checkbox"/>	

CUT SAMPLE PIECE OF MATERIAL AND PREFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

QC 18 INSPECTION	ENGINEERING SIGNOFF (if required)
INSPECTED BY: <u>AT</u> DATE: <u>18/08/31</u>	SIGNED OFF BY: _____ DATE: _____

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in